Title (en)

PROCESS AND INSTALLATION FOR ANALYSING A FLOW OF BULK MATERIALS BY NEUTRON BOMBARDMENT

Publication

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Application

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Priority

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Abstract (en)

[origin: WO8900685A1] Analysis of the content of certain elements in a continuous flow of bulk materials by neutron bombardment and measurement of the gamma radiation emitted by these elements, which makes it possible to distinguish between the capture radiation and the activation radiation. The neutron source is a neutron-generating tube (7) which is activated periodically. The signals from a single gamma radiation detector (10) are considered only after neutron emission has ceased, during distinct intervals corresponding respectively to the phenomena of capture and radiation of the activated elements. The respective signals are treated in two distinct measurement routes and the results are then combined automatically. A third measurement route can be provided for gamma radiation resulting from inelastic shocks. The source (7) and the detector (10) are grouped in a probe (6) lodged in a polyethylene protective tube (5) inside the flow of the materials (1). The installation is used to analyse large flows of minerals without taking samples, in particular in the mining, coal mining, cement, and aluminium industries.

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